

An aerial photograph showing a vast, flat landscape under a clear blue sky. A wide, light-colored body of water, likely a flooded river or field, dominates the foreground and middle ground. A long, straight, dark line, possibly a dike or a road, runs diagonally across the water. In the distance, the horizon is visible with some faint structures and more water. The overall scene depicts a significant flooding event.

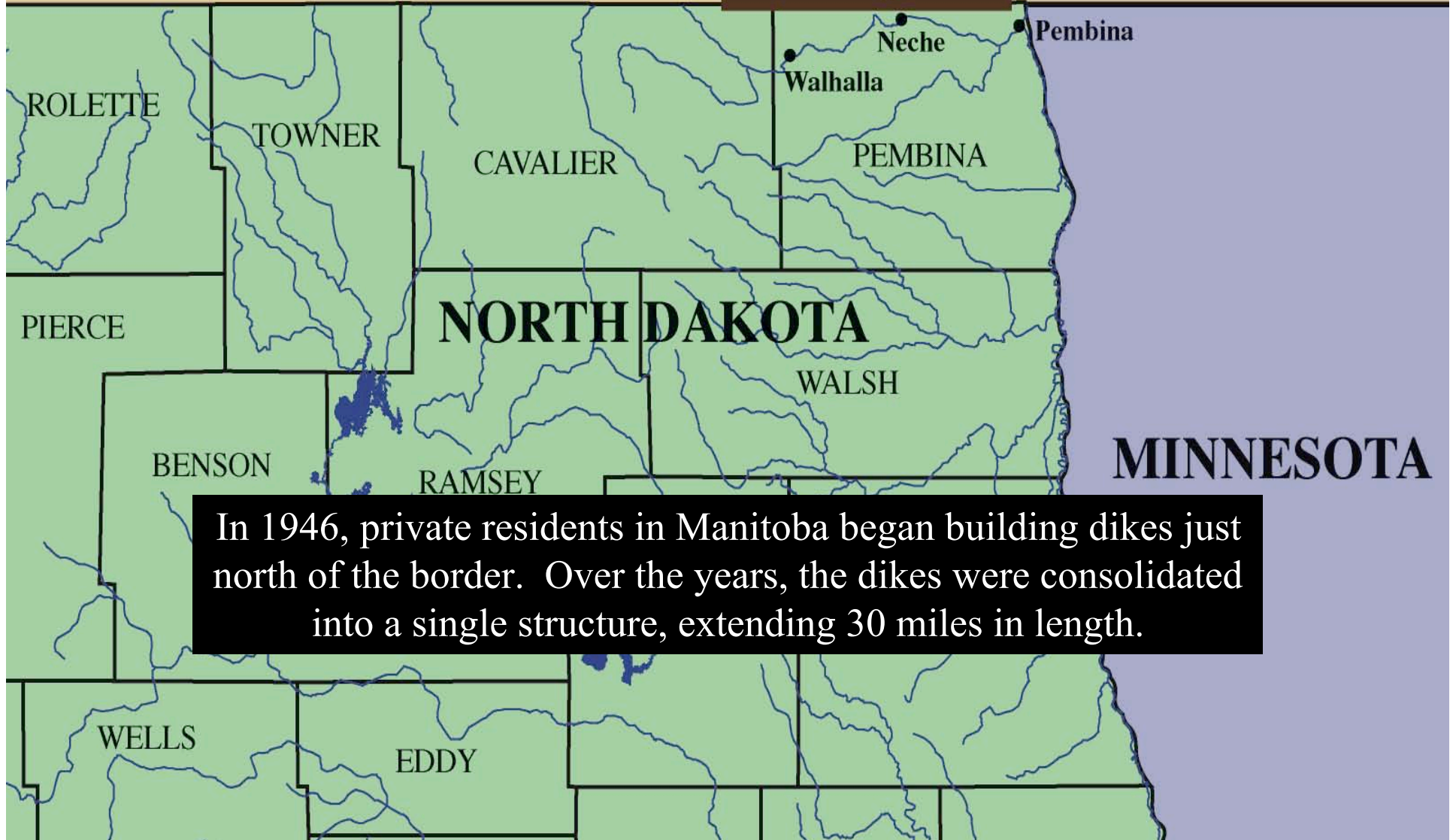
The Manitoba Border Dike

Manitoba
North Dakota

Eastern Pembina County is very flat, other than a distinct overland slope to the northeast. When the Pembina River exceeds flood stage (about every 5 years), water flows northeast and causes significant flooding on the U.S. side of the border.

MANITOBA

Manitoba Border Dike



In 1946, private residents in Manitoba began building dikes just north of the border. Over the years, the dikes were consolidated into a single structure, extending 30 miles in length.

MANITOBA

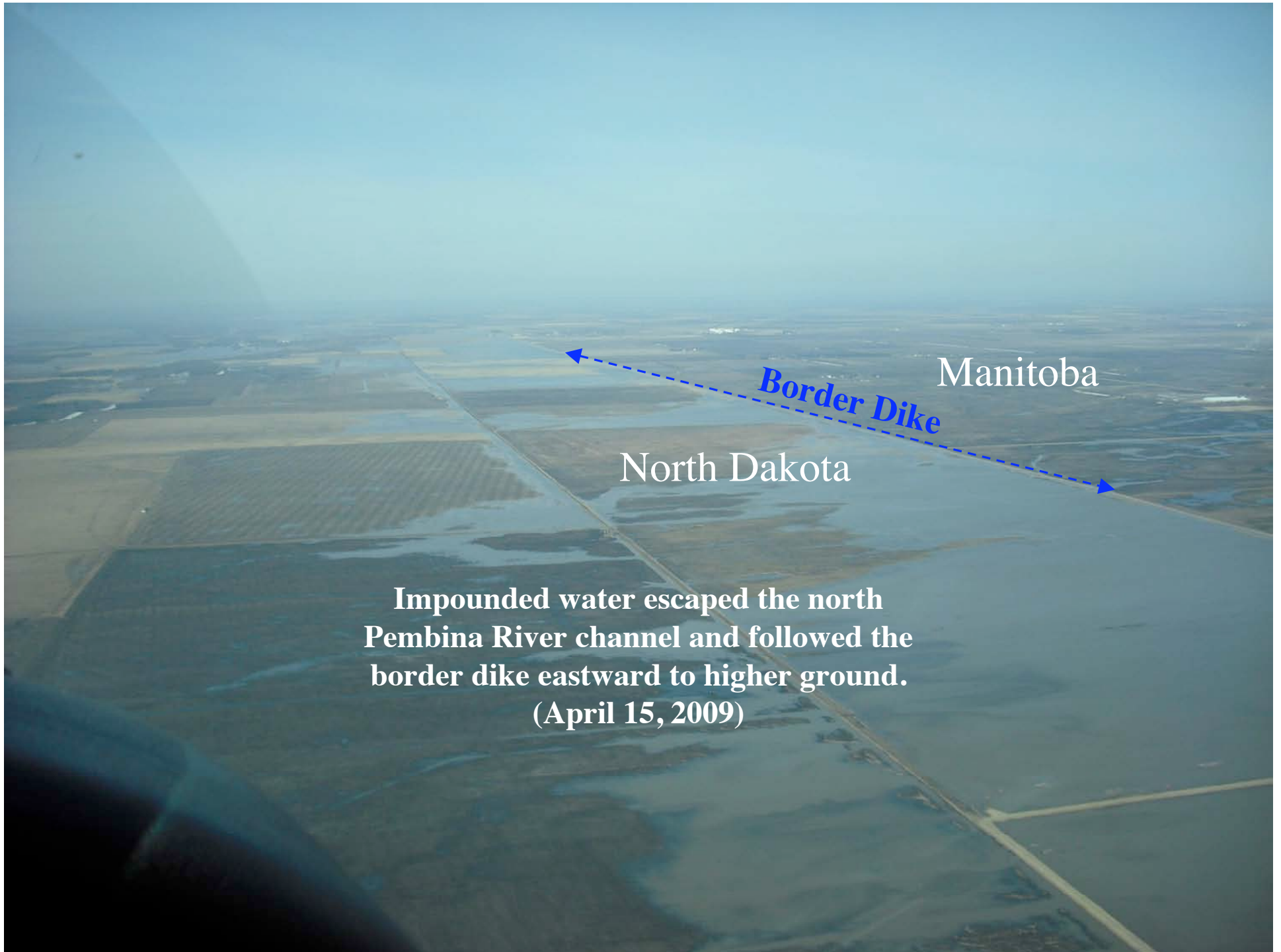
Manitoba Border Dike



MINNESOTA

The following images depict the effectiveness of the Manitoba border dike. They were taken during the spring of 2009. Similar impacts have been experienced by North Dakota residents on numerous occasions in the past.

This is but one year.



Manitoba

Border Dike

North Dakota

**Impounded water escaped the north
Pembina River channel and followed the
border dike eastward to higher ground.
(April 15, 2009)**



Border Dike

**Water impounded in North Dakota behind
the border dike, five miles east of Neche, ND.
(April 21, 2009)**

Photo by: Civil Air Patrol



**Floodwater spills from the Pembina River just northeast of Neche, ND. The border dike can be seen impounding water on the North Dakota side of the border.
(April 21, 2009)**

Photo by: Civil Air Patrol



Border Dike

The image is an aerial photograph taken from the perspective of someone inside an aircraft, looking out over a vast, flat, and heavily flooded landscape. The sky is a pale, hazy blue. In the upper left corner, the underside of the aircraft's wing is visible, showing rivets and structural details. A dashed blue line with arrowheads at both ends stretches across the middle of the image, pointing towards the horizon. The text 'Border Dike' is written in blue, bold, italicized font above this line. Below the line, there is a block of white text with a black outline. The ground below is a mix of light and dark patches, likely representing different types of terrain or vegetation submerged in water.

**The border dike was temporarily
overtopped in areas, but it has
since been repaired.
(April 22, 2009)**

An aerial photograph showing a vast, flat landscape under a cloudy sky. A wide, light-colored area of floodwater stretches across the middle of the image. A dashed blue line with arrowheads at both ends runs horizontally across the floodwater, labeled "Border Dike". The floodwater appears to be impounded on the south side of this dike. The surrounding land is a patchwork of brown and green fields, some of which are partially submerged. In the foreground, there are more fields and a small body of water.

Border Dike

**Floodwater spills from the Pembina
River and is impounded on the south
side of the border dike.
(April 27, 2009)**

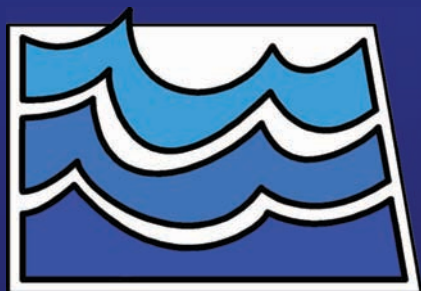
Photo by: Civil Air Patrol



**Floodwater spills from the Pembina River and is impounded
behind the border dike northeast of Necho, ND.
(April 27, 2009)**

Photo by: Civil Air Patrol

After decades of frustration and millions of dollars in crop losses and damages to infrastructure, the natural water courses need to be restored.



**Developed by:
The ND State Water Commission**

Photos by: Civil Air Patrol & ND State Water Commission